

WE CLAIM,

1. A composition containing fatty acids, comprising,  
a Ximenynic acid component, said Ximenynic acid  
component present in an amount from about 01. to  
99.9 wt %, and  
a glyceride component, said glyceride component in an  
amount from 0.1 to 99.9 wt %,  
wherein said Ximenynic acid component is Ximenynic acid,  
originating from a natural source therefor, an  
alkyl or glycerol ester of said Ximenynic acid, a  
wax ester of said Ximenynic acid, or a food  
acceptable salt thereof, and  
wherein said glyceride component is a food grade  
glyceride or a free fatty acid corresponding to the  
hydrolyzed fatty acid residue of said food grade  
glyceride.
2. The composition according to claim 1, wherein said  
Ximenynic acid component is present in an amount from 1 to 99  
wt %.
3. The composition according to claim 1, wherein said  
Ximenynic acid component is present in an amount from 2 to 98  
wt. %.
4. The composition according to claim 1, wherein said  
glyceride component is present in an amount from 1 to 99 wt.  
%.

5 The composition according to claim 1, wherein said glyceride component is present in an amount from 2 to 98 wt. %.

6. The composition according to claim 1, wherein said Ximenynic acid component also comprises Nervonic acid, wherein the weight ratio of Ximenynic acid to Nervonic acid in the blend is between 0.5 and 5.0.

7. The composition according to claim 6, wherein the weight ratio of Ximenynic acid to Nervonic acid is between 0.75 and 4.0.

8. The composition according to claim 6, wherein the weight ratio of Ximenynic acid to Nervonic acid is between 1.2 to 3.5.

9. A concentrate of Ximenynic acid or derivative thereof in a glyceride, comprising,

at least 15 wt % of Ximenynic acid or Ximenynic acid derivative, and

at least 0.5% Nervonic acid or an alkylester or glycerol- or wax ester or a salt thereof.

10 The concentrate of claim 9, wherein the concentrate comprises at least 20 wt % Ximenynic acid or derivative thereof.

11. The concentrate of claim 9, wherein the concentrate comprises at least 5 wt % Nervonic acid or derivative thereof.

12. The composition according to claim 1, wherein said glyceride component is selected from the group consisting of palm oil; cocoa butter; coconut oil; palm kernel oil; CLA-glycerides; soy bean oil, olive oil; sunflower oil; rape seed oil; safflower oil; corn oil; cotton seed oil; cocoa butter equivalents or cocoa butter replacers; fish oil; borage oil; pine nut oil; coriander oil; fungal oils; high oleic varieties thereof, or fractions thereof, or hardened varieties thereof, or fractions of the hardened varieties thereof; or of free fatty acids thereof; and free conjugated linoleic acids.

13. The composition according to claim 12, wherein the composition has a solid fat content, as measured by NMR pulse on a non stabilized blend at the temperature indicated, of  $N_5$  from about 5 to 80, and  $N_{35}$  of less than about 20.

14. A composition according to claim 13, wherein  $N_5$  is about 10 to 70, and  $N_{35}$  is about 1 to 5.

15. The composition according to claim 1, wherein the Ximenynic acid component is isolated from Ximenia or Santalum species.

16. The composition according to claim 6, wherein the Ximenynic acid component is isolated from Ximenia or Santalum species.

17. The composition according to claim 9, wherein the Ximenynic acid component is isolated from Ximenia or Santalum species.

18. The composition according to claim 12, wherein the Ximenynic acid component is isolated from Ximenia or Santalum species.

19. The composition according to claim 13 wherein the Ximenynic acid component is isolated from Ximenia or Santalum species.

20. The composition according to claim 1, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

21. The composition according to claim 6, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

22. The composition according to claim 9, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

23. The composition according to claim 12, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic

tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

24. The composition according to claim 13, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

25. The composition according to claim 15, further comprising an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

26. A food product comprising an effective amount of a Ximenynic acid component, wherein said component is Ximenynic acid, originating from a natural source therefor, an alkyl or glycerol ester of said Ximenynic acid, a wax ester of said Ximenynic acid, or a food acceptable salt thereof.

27. A food product according to claim 26, wherein the food product is a fat based composition selected from the group consisting of margarine; fat continuous spreads; water continuous spreads; bicontinuous spreads; and fat reduced spreads.

28. A food product according to claim 26, wherein said food product is a confectionery product.

29. A food product according to claim 26, wherein said food product is chocolate, chocolate coating, chocolate filling, bakery filling, ice cream, ice cream coating, ice cream inclusions, dressings, mayonnaises, cheese, cream alternatives, dry soups, drinks, cereal bars, sauces or snack bars.

30. A food supplement comprising an effective amount of an Ximenynic acid component, wherein said component is Ximenynic acid, from a natural source therefor, an alkyl or glycerol ester of said Ximenynic acid, a wax ester of said Ximenynic acid, or a food acceptable salt thereof contained in an encapsulating material in granules or in powder form.

31.. The food supplement according to claim 30, wherein said encapsulating material is selected from the group consisting of gelatin, starch, modified starch, flour, modified flour, and sugars.

32 . The food supplement according to claim 30 wherein said encapsulating material is selected from the group consisting of sucrose, lactose, glucose and fructose.

33. The use of a Ximenynic acid composition as an ingredient in food compositions or food supplements with a health effect, whereby said Ximenynic acid component is used for the preparation of said food compositions or food supplements to produce at least one of the following health effects:

- i) lowering or the regulation of body weight;
- ii) prevention or treatment of insulin resistance, or related disorders such as diabetes;

iii) delaying the onset of symptoms related to development of Alzheimers disease;

iv) improving memory function;

v) lowering blood lipid levels;

vi) anti cancer effects;

vii) skin anti-ageing effects;

wherein said Ximenynic acid composition is Ximenynic acid, originating from a natural source therefor, an alkyl or glycerol ester of said Ximenynic acid, a wax ester of said Ximenynic acid, or a food acceptable salt thereof.

34. A process for the extraction and enrichment of an oil in Ximenynic acid, comprising the steps of:

crushing Ximenia americana nuts,

extracting said nuts with a solvent,

separating the extract produced from the extracting step from the solids;

removing the solvent from the extract to produce the oil;

partially hydrolysing the oil with a lipase to produce a partially hydrolyzed product; and

splitting the partially hydrolysed product into a fraction enriched in Ximenynic acid and in a fraction which is leaner in Ximenynic acid.

35. The process of claim 34, wherein said lipase is Candida rugosa lipase

36. The use of Ximenynic acid or derivatives thereof in food systems to improve food properties selected from the group consisting essentially of hardness, texture, aeration,

spreadability, oral properties, mouthfeel, flavour impact, colour, viscosity and ease of processing.

37. The use of Ximenia oil or Santalum oil or other ximenynic acid containing oil or Ximenynic acid, or an alkyl or glycerol ester or a wax ester or a food acceptable salt thereof to effect satiety in mammals.

38. The use of claim 37, wherein said effect is to induce the onset and prolong the feeling of satiety in mammals.

39. The use of the compositions of claim 1 to quicken the onset of satiety and increase the feeling of satiety in mammals.

40. The use according to claim 39, wherein said Ximenynic acid component also comprises Nervonic acid, wherein the weight ratio of Ximenynic acid to Nervonic acid in the blend is between 0.5 and 5.0..

41. The use of a concentrate of Ximenynic acid in a glyceride having at least 15 wt % of a Ximenynic acid component, and at least 0.5 wt % of a Nervonic acid component, to enhance the feeling of satiety in mammals, wherein

said Ximenynic acid component is Ximenynic acid, originating from a natural source therefor, an alkyl or glycerol ester of said Ximenynic acid, a wax ester of said Ximenynic acid, or a food acceptable salt thereof, and

said Nervonic acid component is Nervonic acid or an alkyl ester, glycerol ester, wax ester or a salt thereof.

42 The use of claim 39, wherein said Ximenynic acid is present in at least 20% wt, and said Nervonic acid component is present in at least 5% wt.

43. The use of claim 39, wherein said glyceride component of claim 1 is selected from the group consisting of palm oil; cocoa butter; coconut oil; palm kernel oil; CLA-glycerides ; soy bean oil; olive oil; sunflower oil; rape seed oil; safflower oil; corn oil; cotton seed oil; cocoa butter equivalents or cocoa butter replacers; fish oil; borage oil; pine nut oil; coriander oil; fungal oils; or high oleic varieties thereof, or fractions thereof, or hardened varieties thereof, or fractions of the hardened varieties or mixtures of one or more of these oils and fats, or of the free fatty acids thereof, and free conjugated linoleic acids.

44. The use of compositions according to claim 40, wherein said glyceride component of claim 1 is selected from the group consisting of palm oil; cocoa butter; coconut oil; palm kernel oil; CLA-glycerides ; soy bean oil, olive oil; sunflower oil; rape seed oil; safflower oil; corn oil; cotton seed oil; cocoa butter equivalents or cocoa butter replacers; fish oil; borage oil, pine nut oil; coriander oil; fungal oils, or high oleic varieties thereof, or fractions thereof, or hardened varieties thereof, or fractions of the hardened varieties or mixtures of one or more of these oils and fats, or of the free fatty acids thereof, and free conjugated linoleic acids.

45. The compositions according to claim 41, wherein the solid fat content of said composition, as measured by NMR pulse on a non stabilised blend at the temperature indicated, of  $N_5$  is about 5 to 80, and  $N_{35}$  is less than 20.
46. The compositions according to claim 42, wherein  $N_5$  is about 10 to 70 and  $N_{35}$  is about 1 to 5
48. The use of compositions according to claim 39, wherein the Ximenynic acid or derivative thereof is isolated from Ximenia or Santalum species.
49. The use of compositions according to claim 40, wherein the Ximenynic acid or derivative thereof is isolated from Ximenia or Santalum species.
50. The use of compositions according to claim 41, wherein the Ximenynic acid or derivative thereof is isolated from Ximenia or Santalum species.
51. The use of compositions according to claim 42, wherein the Ximenynic acid or derivative thereof is isolated from Ximenia or Santalum species.
52. The use of compositions according to claim 43, wherein the Ximenynic acid or derivative thereof is isolated from Ximenia or Santalum species.
53. The use of compositions according to claim 39, wherein the composition further comprises an effective amount of an oxidation stabiliser selected from the group consisting of

natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

54 The use of compositions according to claim 40, wherein the composition further comprises an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

55. The use of compositions according to claim 41, wherein the composition further comprises an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

56. The use of compositions according to claim 42, wherein the composition further comprises an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

57. The use of compositions according to claim 43, wherein the composition further comprises an effective amount of an oxidation stabiliser selected from the group consisting of natural or synthetic tocopherols, BHT, TBHQ, BHA, propylgallate; free radical scavengers, enzymes with anti oxidant properties and ascorbyl esters of fatty acids.

58. The use of food products comprising an effective amount of a health component wherein the health component is Ximenynic acid, an alkylester of Ximenynic acid; a glycerolester of Ximenynic acid, a wax ester of Ximenynic acid or a food acceptable salt thereof, to induce the onset of satiety and increase the feeling of satiety in mammals.

59. The food products according to claim 58, wherein the food product is selected from the group consisting of margarine, fat continuous, water continuous spreads; bicontinuous spreads; fat reduced spreads, confectionery products, chocolate, chocolate coatings, chocolate fillings, or bakery fillings, ice creams, ice cream coatings, ice cream inclusions, dressings, mayonnaises, cheese, cream alternatives, dry soups, drinks, cereal bars, sauces and snack bars.

60. The use of food supplements comprising, an effective amount of Ximenynic acid or a derivative thereof in an encapsulating material, granules or powder form, to induce the onset of satiety and increase the feeling of satiety in mammals.

61. Food supplements according to claim 60, wherein the encapsulating material is selected from the group consisting of gelatin, starch, modified starch, flour, modified flour, sugars, sucrose, lactose, glucose and fructose.